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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Li Mo

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EXAMINER

HO, CHUONG T

ART UNIT

PAPER NUMBER

2664

DATE MAILED: 03/25/2004

14

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/589,038

Applicant(s)

MO ET AL.

Examiner

Chuong Ho

Art Unit

2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 19-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 19-24 and 26-29 is/are rejected.
- 7) ☐ Claim(s) 25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12</u> . | 6) <input type="checkbox"/> Other: _____ |

1. Amendment filed 12/30/03 have been entered and made of record.
2. Applicant's amendment filed 12/30/03 with respect to claims 1-10, 19-29 have been considered but are moot in view of the new ground(s) of rejection.
3. Claims 1-10, 19-29 are pending.

Claim Objections

4. Claim 25 is objected to because of the following informalities: the egress port selector further operable to discard protection traffic received at the specified ingress port for the specified destination node when a status for the protection egress port **comprises** unavailable. Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 19, 3-5, 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Chen et al. (U.S. Patent No. 6,353,593).

In the claim 1, Chen et al. discloses a system for providing protection for connectionless signals (see col. 1, lines 23-25) in a telecommunication network comprising a plurality of nodes (30, 32, 34), the system comprising:

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Generating a first protection path (44) from each (30) of the nodes to a destination node (34) (see col. 4, lines 22-26, col. 6, lines 37-41, col. 7, lines 10-15, col. 2, lines 12-18);

Generating a second protection path (46) from each (30) of the nodes to a destination node (34), the second protection path (46) distinct from the first protection path (44)

(see col. 4, lines 22-26, col. 6, lines 37-41, col. 7, lines 10-15, col. 2, lines 12-18);

Routing protection traffic along one of the protection paths (44, 46) to the destination node (34) (see col. 4, lines 22-26, col. 6, lines 37-41, col. 7, lines 10-15, col. 2, lines 12-18); wherein generating the first protection path (44) and generating the second protection path each comprise decomposing the telecommunication network (10) (see figure 1, col. 4, lines 22-26, col. 6, lines 37-41, col. 7, lines 10-15, col. 2, lines 12-18).

7. In the claim 19, Chen et al. discloses a system for providing protection for connectionless signals (see col. 1, lines 23-25) in a telecommunication network comprising a plurality of nodes (30, 32, 34), the system comprising: a plurality of nodes (26) operable to receive and transmit connectionless signals and be decomposed into a ring (10), the plurality of nodes (26) comprising a destination node (34);

Generating a first protection path (44) from each (30) of the nodes to a destination node (34) (see col. 4, lines 22-26, col. 6, lines 37-41, col. 7, lines 10-15, col. 2, lines 12-18);

Generating a second protection path (46) from each (30) of the nodes to a destination node (34), the second protection path (46) distinct from the first protection path (44) (see col. 4, lines 22-26, col. 6, lines 37-41, col. 7, lines 10-15, col. 2, lines 12-18); each of the nodes operable to transmit protection traffic for the destination node (34) along the first protection path (44) and along the second protection path (46); routing

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protection traffic along one of the protection paths (44, 46) to the destination node (34) (see col. 4, lines 22-26, col. 6, lines 37-41, col. 7, lines 10-15, col. 2, lines 12-18).

8. In the claim 3, Chen et al. (U.S.6,353,593 B1) discloses decomposing the telecommunications network comprising decomposing the telecommunications network into a ring (see figure 1, col. 4, lines 22-26, col. 6, lines 37-41, col. 7, lines 10-15, col. 2, lines 12-18).

9. In the claim 4, Chen et al. discloses decomposing the telecommunications further comprising decomposing the telecommunications network into at least one ear (see figure 1, col. 4, lines 22-26, col. 6, lines 37-41, col. 7, lines 10-15, col. 2, lines 12-18).

10. In the claim 5, Chen et al. discloses decomposing the telecommunications network further comprising charting the ring horizontally beginning with the destination and ending with destination node (see figure 1, col. 4, lines 22-26, col. 6, lines 37-41, col. 7, lines 10-15, col. 2, lines 12-18).

11. In the claim 21, Chen et al. discloses the plurality of nodes further operable to be decomposed into at least one ear (see figure 1, col. 4, lines 22-26, col. 6, lines 37-41, col. 7, lines 10-15, col. 2, lines 12-18).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 22-24, 26-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (U.S. Patent No. 6,353,593 B1) in view of Au (U.S. Patent No. 6,473,397 B1).

In the claim 22, Chen et al. discloses the limitations of claim 19 above.

However, Chen et al. is silent to disclosing each of nodes comprising at least two ports, each port operable to receive and transmit traffic for the node and a protection egress port identifier operable to identify one of the ports as a protection egress port for a specified ingress port and a specified destination node, the protection egress port operable to transmit protection traffic received at the specified ingress port for the specified destination node.

Au discloses, see figure 3, STU-VCI mapping 51 identifying the VCIs associated with all its STUs. The ATM switch has a full-duplex STU port 49 for each STU52 (see col. 5, lines 37-38); comprising:

each of nodes (A, B, C, D, E) comprising at least two ports, each port operable to receive and transmit traffic for the node and a protection egress port identifier operable to identify one of the ports as a protection egress port for a specified ingress port and a specified destination node, the protection egress port operable to transmit protection traffic received at the specified ingress port for the specified destination node (see figure 3, col. 7, lines 25-30, col. 5, lines 1-67, col. 6, lines 1-67, col. 7, lines 1-10).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Chen with the teaching of Au to provide at least two ports (each of nodes), each port operable to receive and transmit traffic for the node

in order to identify one of the ports as a protection egress port for a specified ingress port and a specified destination node, the protection egress port operable to transmit protection traffic received at the specified ingress port for the specified destination node. Therefore, the combined system would have been enable the node to be re-routed the traffic to another available egress protection port (a failure occurs on the working egress port).

14. In the claim 23, Au discloses each of the nodes further comprising an egress port evaluator operable to evaluate a status for each of the nodes (see col. 9, lines 20-25).

15. In the claim 24, Au discloses each of the nodes further comprising an egress port selector operable to select an egress port for transmitting traffic for the node (see col. 7, lines 5-7, lines 25-30).

16. In the claim 26, Au discloses each of the nodes further comprising a working traffic egress port identifier (see figure 3) operable to identify one of the ports as a working traffic egress port for a specified ingress port and a specified destination node, the working traffic egress port operable to transmit working traffic received at the specified ingress port for the specified destination node (see figure 3, col. 7, lines 25-30, col. 5, lines 1-67, col. 6, lines 1-67, col. 7, lines 1-10).

1. In the claim 27, Au discloses each of nodes further comprising a secondary protection egress port identifier operable to identify one of the ports as a secondary protection egress port for a specified destination node, the secondary protection egress port operable to transmit as protection traffic the working traffic received at the node for

the specified destination node (see figure 3, col. 7, lines 25-30, col. 5, lines 1-67, col. 6, lines 1-67, col. 7, lines 1-10).

17. In the claim 28, Chen et al. discloses each of the nodes further comprising a traffic classifier operable to classify received traffic as working traffic or protection traffic (see col. 6, lines 60-67, col. 7, lines 1-10).

18. In the claim 29, Au discloses the egress port selector operable to select an egress port for transmitting traffic for the node based on the classification of the received traffic as working traffic or protection traffic and based on the status of the egress ports (see figure 3, col. 7, lines 25-30, col. 5, lines 1-67, col. 6, lines 1-67, col. 7, lines 1-10).

19. Claims 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (U.S. Patent No. 6,353,593 B1) in view of Cook et al. (5,533,016).

In the claim 6, Chen et al. discloses the limitations of claim 1 above.

However, Chen et al. is silent to disclosing decomposing the telecommunications network further comprising ordering the ears and charting the ears horizontally based on the order of the ears.

Cook et al. discloses a ring is routed through a subset of nodes of a communication network by first providing a branch-decomposition having a pattern relating to separations of the network. The branch-decomposition can be performed using internal two-separations, internal three-separations, eigenvector separations and pushing (see abstract); comprising:

decomposing the telecommunications network further comprising ordering the ears and charting the ears horizontally based on the order of the ears (see col. Figure 3A, col. 1, lines 37-39, lines 60-62, lines 65-67, col. 4, lines 17-28).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Chen with the teaching of Cook to decompose the telecommunication network and further comprising order the ears in order to desirable to provide a redundant path of minimum cost among a selected subset of the network nodes that are communication.

20. In the claim 7, Chen discloses generating the first protection path further comprising generating the first protection path in a first direction based on the charted ring and ears and generating the second protection path further comprising generating the second protection path in a second direction based on the charted ring and ears (see figure 1, col. 4, lines 22-26, col. 6, lines 37-41, col. 7, lines 10-15, col. 2, lines 12-18).

21. In the claim 8, Chen et al. discloses classifying received traffic as working traffic or protection traffic; and routing protection traffic comprising routing protection traffic based on the classification of the received traffic as working traffic or protection traffic (see figure 1, col. 4, lines 22-26, col. 6, lines 37-41, col. 7, lines 10-15, col. 2, lines 12-18).

22. In the claim 9, Chen et al. discloses routing protection traffic further comprising routing along the first protection path the protection traffic received on the first protection path and routing along the second protection path the protection traffic received on the

second protection path (see figure 1, col. 4, lines 22-26, col. 6, lines 37-41, col. 7, lines 10-15, col. 2, lines 12-18).

23. In the claim 10, Cook discloses determining which of the first and second paths to the destination node comprises a shorter path; and routing received working traffic as protection traffic onto the protection path comprising the shorter path (see col. Figure 3A, col. 1, lines 37-39, lines 60-62, lines 65-67, col. 4, lines 17-28).

Allowable Subject Matter

24. Claim 25 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion


25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuong Ho whose telephone number is (703) 306-4529. The examiner can normally be reached on 8:00AM to 4:00PM.

26. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chuong Ho
Examiner
Art Unit 2664

03/12/04



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